

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
International Comparison and Consumer)	
Survey Requirements in the Broadband Data)	GN Docket No. 09-47
Improvement Act)	
)	
A National Broadband Plan For Our Future)	GN Docket No. 09-51
)	
Inquiry Concerning the Deployment of)	
Advanced Telecommunications Capability to)	
All Americans in a Reasonable and Timely)	
Fashion, and Possible Steps to Accelerate)	GN Docket No. 09-137
Such Deployment Pursuant to Section 706 of)	
the Telecommunications Act of 1996, as)	
Amended by the Broadband Data)	
Improvement Act)	
)	
Special Access Rates for Price Cap Local)	WC Docket No. 05-25
Exchange Carriers)	

**COMMENTS - NBP PUBLIC NOTICE # 11
OF
T-MOBILE USA, INC.**

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I. INTRODUCTION AND SUMMARY.

T-Mobile USA, Inc. (“T-Mobile”) submits these comments in response to the above-captioned public notice on access to middle and second mile transport services and facilities.¹ T-Mobile agrees that “adequate, reasonably priced, and efficiently provided access to middle and second mile transport services and facilities play an important—if not gating—role in the economics of broadband deployment, particularly in rural,

¹ See FCC Public Notice, *Comment Sought On Impact Of Middle And Second Mile Access On Broadband Availability And Deployment*, NBP Public Notice # 11, GN Docket Nos. 09-47, 09-51, 09-137, DA 09-2186 (Oct. 8, 2009) (“Public Notice # 11”). T-Mobile also is filing these comments in the Commission’s proceeding on *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, because of their relevance to that proceeding.

unserved, and underserved areas.”² This is especially the case for wireless providers, which need these services and facilities to connect their base stations to mobile switching centers, as well as to link their networks to the networks of other providers (i.e., backhaul services). Consumers will enjoy the benefits of ubiquitous mobile broadband service and choice among service providers only if second- and middle-mile connectivity is available at reasonable rates, terms, and conditions, particularly since consumer demand for mobile broadband services is growing exponentially.

T-Mobile and other providers of mobile services frequently purchase second- and middle-mile connectivity from third parties, some of which compete with T-Mobile in the retail service market. Today, the backhaul marketplace is particularly complex and challenging because many mobile providers are transitioning away from purchasing traditional time-division-multiplexed (“TDM”) services, including DS1s and DS3s, to higher-bandwidth Ethernet services. Ethernet likely will not be available for several years in a number of markets, however, and many providers will continue to rely upon TDM for voice services.

In T-Mobile’s experience, competition in the market for second- and middle-mile connectivity can vary dramatically in relatively small areas because the markets for such connectivity are inherently local. In most urban areas, several potential providers, including incumbent local exchange carriers (“ILECs”), cable companies, and other competitive access providers (“CAPs”), compete to provide second- and middle-mile connectivity, which significantly increases the chance that such connectivity will be available at reasonable rates, terms, and conditions. By contrast, in areas with lower

² *Id.* at 1.

population density, the ILECs' special access services are often the only practical option for second- and middle-mile connectivity. Without the pressure of competition, the rates, terms, and conditions for backhaul in these areas frequently are not reasonable.

Based on this experience, T-Mobile believes the Commission can foster competition by reducing or eliminating barriers to market entry by, among other things, targeting universal service support more effectively, establishing a federal "shot clock" for action by state and local governments on collocation and tower siting requests, and preempting unnecessarily burdensome laws and regulations. To the extent the Commission believes that more information is necessary before taking these actions, T-Mobile urges it to conduct a very targeted data collection from backhaul suppliers aimed at resolving the problems that will continue to hinder backhaul competition in the coming years.

In areas where competition has yet to develop, the Commission should monitor the rates, terms, and conditions for second- and middle-mile connectivity and intervene as necessary to ensure the reasonableness of the offerings. The Commission should also keep squarely in mind the importance of competition in the market for second- and middle-mile connectivity when considering intercarrier compensation, access charge, and universal service reforms.

II. THE MARKET FOR BROADBAND CONNECTIVITY WILL EVOLVE DRAMATICALLY OVER THE NEXT FIVE TO TEN YEARS.

A. The Commission Should Monitor the Market for Second- and Middle-Mile Connectivity.

The demand for mobile broadband is exploding, as Chairman Genachowski has noted.³ According to Cisco, mobile data traffic at the global level will increase 66 times between 2008 and 2013,⁴ which is consistent with T-Mobile's experience on a per-device basis, if not conservative. For example, customers of T-Mobile's G1™ smartphone use, on average, 50 times the data of the average T-Mobile customer,⁵ while customers of T-Mobile's webConnect™ USB Laptop Stick use, on average, 200 times the data of the average T-Mobile voice customer. Mobile bandwidth demands will continue to skyrocket with increasing mobile use of even higher-bandwidth applications like over-the-top Internet video (*e.g.*, YouTube, Hulu).

To meet this burgeoning demand for bandwidth, all providers of mobile broadband services, including T-Mobile, must dramatically increase network capacity. Of paramount importance, as T-Mobile recently explained, is the need for additional

³ See Hon. Julius Genachowski, Chairman, FCC, "America's Mobile Broadband Future," prepared remarks, International CTIA WIRELESS I.T. & Entertainment, San Diego, CA, at 5 (Oct. 7, 2009); *see also* Comments–NBP Public Notice #6 of T-Mobile, GN Docket Nos. 09-47, 09-51, 09-137, at 4-7 (Oct. 23, 2009) ("*T-Mobile Spectrum Comments*").

⁴ See *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update* (Jan. 29, 2009), available at http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.html (last visited Nov. 3, 2009) (noting that "[g]lobally, mobile data traffic will double every year through 2013, increasing 66 times between 2008 and 2013").

⁵ See *T-Mobile: G1 Users Use Data in Record Numbers*, Wireless Week (Apr. 1, 2009), available at <http://www.wirelessweek.com/News-CTIA-2009-T-Mobile-G1-Users-Data-Record-040109.aspx> (last visited Nov. 3, 2009).

spectrum.⁶ Nearly as crucial, however, is access to high-capacity backhaul at reasonable rates, terms, and conditions, which is the subject of *Public Notice # 11*. Without sufficient and reasonably priced backhaul, no network can provide the types of mobile data and voice services that customers are increasingly demanding even if additional spectrum ultimately is made available.

B. Second- and Middle-Mile Connectivity Is Crucial to Providers of Mobile Broadband Services.

For providers of mobile broadband services like T-Mobile, “second-mile” connectivity links base stations at towers with mobile switching centers (“MSCs”).⁷ “Middle-mile” connectivity links MSCs with the public switched telecommunications network (“PSTN”) or an Internet backbone.⁸ T-Mobile relies on both TDM-based DS1s and DS3s and Ethernet-based services for this second- and middle-mile connectivity.⁹

Second-mile connectivity is particularly critical for mobile broadband networks. The geographic markets for second-mile connectivity are highly localized because, as a practical matter, only a limited number of routes connect a base station with its serving MSC. And, in any given area, only a few suppliers can serve these routes through fixed microwave, copper, fiber, or coax facilities. Although the marketplace for middle-mile connectivity is more competitive and, on a per-megabyte basis, less expensive than second-mile connectivity, the availability of both at reasonable rates, terms, and conditions is crucial to the deployment of mobile broadband services.

⁶ See *T-Mobile Spectrum Comments* at 2-3, 14-17.

⁷ See *Public Notice # 11* at 1-2.

⁸ See *id.*

⁹ See *id.* at 2-4. T-Mobile purchases the vast bulk of its second- and middle-mile connectivity from third party suppliers, rather than self-provisioning this connectivity.

C. Special Access Will Continue To Be Important for Broadband Connectivity Over the Coming Years.

With the deployment of 3G wireless networks, many mobile broadband service providers are in the process of transitioning away from TDM-based DS1s and DS3s to Ethernet and other packet-switched services for their second- and middle-mile connectivity needs.¹⁰ For example, T-Mobile is using Ethernet backhaul in Philadelphia to support its recent deployment of mobile broadband based on HSPA+ in that market, and it intends to extend the HSPA+/Ethernet technology combination throughout the country as quickly as possible.¹¹ Nevertheless, because Ethernet is a relatively new transmission technology for second-mile connectivity, many wireless providers will continue to rely on TDM technology for at least a few years to carry voice traffic. As such, even in markets where Ethernet is available, many mobile broadband providers will likely need a mix of DS1s, DS3s, and Ethernet to satisfy their second- and middle-mile connectivity needs for the near future. And, Ethernet likely will not be available for several years in a number of markets, especially in rural areas, due to the economic and competitive conditions discussed in this pleading.¹²

¹⁰ See Public Notice # 11 at 2-3.

¹¹ See Dan Nosowitz, *T-Mobile Launches 21Mbps 3G Service in Philadelphia* (Sept. 19, 2009), available at <http://gizmodo.com/5363254/t+mobile-launches-21mbps-3g-service-in-philadelphia> (last visited Nov. 3, 2009).

¹² See Public Notice # 11 at 2-3, 7.

III. THE STATE OF COMPETITION FOR SECOND- AND MIDDLE-MILE CONNECTIVITY VARIES WIDELY FROM MARKET TO MARKET

A. Second- and Middle-Mile Connectivity Is More Readily Available at Reasonable Prices, Terms, and Conditions in Urban Areas.

The marketplace for second- and middle-mile connectivity is challenging because economic conditions and the state of competition vary greatly among relatively small geographic areas.¹³ In light of the increasing consumer demand for a wide variety of mobile products and services, the availability of reasonable rates, terms, and conditions for second- and middle-mile connectivity is crucial in all markets. In markets with multiple suppliers of backhaul connectivity, providers of mobile broadband services can choose the supplier that offers the necessary coverage while meeting the provider's needs with respect to reliability, service quality and price. In many urban markets, a wide variety of suppliers, including ILECs, cable companies, utilities, and CAPS, compete to offer the best rates, terms, and conditions. In T-Mobile's experience, introducing true competitive alternatives in areas served by only one supplier is far superior to relying on regulatory mandates. Accordingly, the Commission should seek to foster competition to the greatest extent feasible and avoid policies that inadvertently increase the market power that some suppliers of second- and middle-mile connectivity have in areas without sufficient competition.

B. Obtaining Second- and Middle-Mile Connectivity at Reasonable Prices, Terms, and Conditions Remains Problematic in Certain Areas.

As a Commission representative correctly noted, "much of the difficulty of deploying broadband service in 'traditionally unserved' areas – that is, less densely

¹³ See *id.* at 6.

populated areas – ‘lies in the second mile and middle mile.’”¹⁴ T-Mobile agrees that alternative suppliers, especially of second-mile connectivity, are more limited in areas with relatively low population densities.¹⁵ Neville Ray of T-Mobile explained at a recent broadband workshop that, while “competitive forces work in metro areas where there’s a lot of fiber ... those challenges do become tougher, much tougher, as you start to thin out in terms of POP density.”¹⁶ Less connectivity is needed to serve areas with lower traffic levels, and backhaul suppliers earn less return on their investments. Accordingly, there is less incentive for competitors to the ILECs to enter these rural areas, even if they are adjacent to areas with multiple suppliers. In these areas, providers of mobile broadband services are reliant on the special access offerings of the serving ILEC.¹⁷

In some rural areas, prices for connectivity may be multiples of prices for the same level of service in more urban areas. Many ILECs in these areas continue to charge legacy pricing for special access even though their facilities may have been paid off for years. In fact, a number of ILECs have no plans to offer fiber-based connectivity and their supplies of DS1s and DS3s may be limited. Under these circumstances, the market has failed and Commission intervention is necessary to ensure that second- and middle-mile connectivity is available on reasonable rates, terms, and conditions. The Commission should also take steps to facilitate competition in these markets because, in

¹⁴ See Lynn Stanton, *Last Mile Not Main Problem In Unserved Areas, FCC Broadband Staffer Says*, TR Daily (Oct. 23, 2009) (quoting Rob Curtis of the FCC’s Broadband Task Force).

¹⁵ See *Public Notice # 11* at 2-3, 7.

¹⁶ National Broadband Plan Workshop: Wireless Broadband Deployment – General, Transcript, GN Docket 09-51, at 45-46 (Aug. 12, 2009) (Comments of Neville Ray, T-Mobile).

¹⁷ See *Public Notice # 11* at 7.

T-Mobile's experience, competition is much more effective than regulation to ensure the reasonableness of rates, terms, and conditions.

IV. THE COMMISSION SHOULD ENGAGE IN TARGETED REGULATORY INTERVENTION IN LIGHT OF THE IMPORTANCE OF SECOND- AND MIDDLE-MILE CONNECTIVITY.

A one-size-fits-all regulatory regime for second- and middle-mile connectivity is not appropriate in light of the great variance in the state of competition from market to market.¹⁸ Although Commission oversight is necessary in all areas, additional regulation may not be the best course in markets with several competing suppliers of backhaul connectivity. In areas where competition is limited or nonexistent, by contrast, regulation would be appropriate. T-Mobile believes that the Commission's open rulemaking in WC Docket No. 05-25 on special access¹⁹ is the proper forum for determining how and where to regulate. And, T-Mobile urges the Commission to take prompt action in that rulemaking, which has been pending for almost five years. In any event, regulatory certainty is crucial, especially in the complex market environment for second- and middle-mile connectivity.

A. The Commission Should Intervene Where Necessary To Ensure that Second- and Middle-Mile Connectivity Is Available at Reasonable Rates, Terms, and Conditions.

The Communications Act of 1934, as amended (the "Act"), requires carriers to negotiate contracts for special access services containing terms that are "just and

¹⁸ See *id* at 6-7.

¹⁹ See, e.g., Comments of T-Mobile, *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, RM-10593 (Aug. 8, 2007) ("*T-Mobile Special Access Comments*"); see also Ex Parte Letter from CCIA, Ad Hoc Telecomms. Users Group, Sprint Nextel, T-Mobile, tw telecom, *et al.*, to Marlene H. Dortch, Sec'y, FCC, *Special Access Rates for Price Cap Local Exchange Carriers*, WC Docket No. 05-25, at 5-9 (June 3, 2009).

reasonable.”²⁰ In a competitive market, providers of mobile broadband services typically are able to negotiate terms for backhaul without regulatory intervention, but the same is not true where there are limited competitive choices. In those markets, the ILECs enjoy a decisive advantage in negotiating rates, terms, and conditions for special access services used for second- and middle-mile connectivity.

Where the Commission determines that competition is not fully policing a particular market, parties seeking second- and middle-mile connectivity in that market should have a quick and economically feasible means for obtaining review of the rates, terms, and conditions under which such connectivity is available.²¹ For example, the Commission should consider adopting a mechanism by which parties could rapidly resolve disputes about second- and middle-mile connectivity arrangements. The Commission should also adopt targeted special access regulation as necessary in light of the conditions in the market.²² In addition, to the extent special access services are sources of implicit subsidy for ILECs in rural areas or elsewhere, the Commission should

²⁰ See 47 U.S.C. §§ 201, 202.

²¹ See, e.g., Ex Parte Letter from Thomas J. Sugrue, VP, Gov’t Affairs, T-Mobile, and Paul Kouroupas, VP, Regulatory Affairs, Global Crossing N. Am., Inc., to Marlene H. Dortch, Sec’y, FCC, *SBC Communications Inc. and AT&T Corp., Applications for Approval of Transfer of Control*, WC Docket No. 05-65, and *Verizon Communications Inc. and MCI, Inc., Applications for Approval of Transfer of Control*, WC Docket No. 05-75 (Oct. 7, 2005) (proposing final offer arbitration structure to resolve special access disputes).

²² See, e.g., *T-Mobile Special Access Comments* at 9-15; see also *Special Access Reform: Delivering on the Promise of Broadband* at 12, attach. to Ex Parte Letter from Paul Margie, Counsel, Media Access Project, Nat’l. Telecomm. Coop. Ass’n, New Am. Found., et al., to Marlene H. Dortch, Sec’y, FCC, WC Docket No. 05-25 (Sept. 24, 2009).

consider eliminating such subsidies and reform universal service to create incentives for efficient provision of connectivity where competitive alternatives do not exist.²³

B. The Commission Should Grant CTIA's Petition Requesting a Federal Shot Clock for State and Local Siting Decisions.

T-Mobile urges the Commission to grant CTIA's petition for declaratory ruling to establish a federal "shot clock" for action by state and local governments on wireless facility siting requests.²⁴ The *Shot Clock PDR* seeks federal action regarding the "placement, construction, and modification of personal wireless service facilities" as outlined in Section 332(c)(7)(B) of the Act.²⁵ To meet exploding demand for mobile bandwidth, third-party suppliers and mobile carriers will have to collocate or install new facilities such as microwave dishes, transmitters, and towers and, in many cases, will have to obtain authorizations from state and local governments for siting and collocation. As T-Mobile noted in its comments on the *Shot Clock PDR*, obtaining zoning and other authorizations from local authorities to build mobile wireless infrastructure has become so cumbersome that targeted regulatory intervention by the Commission is necessary.²⁶

²³ See, e.g., Comments of T-Mobile, *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Lifeline and Link Up, Universal Service Contribution Methodology, Numbering Resource Optimization, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Developing a Unified Intercarrier Compensation Regime, Intercarrier Compensation for ISP-Bound Traffic, IP-Enabled Services*, CC Docket Nos. 96-45, 96-98, 99-68, 99-200, 01-92; WC Docket Nos. 03-109, 04-36, 05-337, 06-122 (Nov. 26, 2008).

²⁴ See Petition for Declaratory Ruling of CTIA, *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance*, WT Docket No. 08-165 (July 11, 2008) ("*Shot Clock PDR*").

²⁵ See 47 U.S.C. § 332(c)(7)(B); see also *Shot Clock PDR* at 5.

²⁶ See Comments of T-Mobile, *Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt under Section*

Speeding up the processes for siting facilities is essential to meet the Commission's goals of nationwide broadband deployment.

V. CONCLUSION.

T-Mobile urges the Commission to monitor the state of competition in the special access marketplace across the United States and focus on areas in which competition has failed to discipline the market. In those markets, the Commission should take actions necessary to foster competition by, among other things, targeting universal service support more effectively, establishing a federal shot clock for action by state and local governments on collocation and tower siting requests, and preempting unnecessarily burdensome laws and regulations. In areas where competition has yet to develop, the Commission should monitor the rates, terms, and conditions for second- and middle-mile connectivity and intervene as necessary to ensure their reasonableness. Additional regulation may be required in these markets.

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253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, WT Docket No. 08-165, at 9-12 (Sept. 29, 2008).